



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

September 17, 2013

Via E-mail

Mr. Timothy C. Carlson
Chief Financial Officer and Treasurer
ATMI, Inc.
7 Commerce Drive
Danbury, Connecticut 06810

RE: ATMI, Inc.
Form 10-K for the Year Ended December 31, 2012
Filed February 22, 2013
Form 10-Q for the Period Ended June 30, 2013
Filed July 24, 2013
Response dated September 9, 2013
File No. 1-16239

Dear Mr. Carlson:

We have reviewed your response letter dated September 9, 2013 and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Form 10-K for the Year Ended December 31, 2012

General

1. Where a comment below requests additional disclosures or other revisions to be made, please show us in your supplemental response what the revisions will look like. These revisions should be included in your future filings, including your interim filings, if applicable.

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Financial Statements

Notes to the Financial Statements

Note 12. Stockholders' Equity

Fair Value, page F-28

2. We note your response to comment 9 in our letter dated August 27, 2013. ASC 718-10-55-37(a) indicates that entities should consider historical volatility over a period generally commensurate with the expected term of the share options. Your disclosure states that your expected volatility is based on the historical volatility of your common stock for a period shorter than the expected term of the options. In this regard, please address the following:
- Please clarify in your disclosures if the sole factor causing you to use a shorter period is the exclusion of the historical volatility prior to publicly announcing the sale of the non-core businesses in October 23, 2003; and
 - Your disclosures on page F-28 indicate that the weighted average expected term of your options during 2012 was 7.87 years. Given that over eight years would have passed at the time of your 2012 options grants since publicly announcing the sale of the non-core businesses, it is not clear why this period prior to October 23, 2003 would continue to be excluded. Please clarify in your disclosures if you are continuing to use a shorter period for options you are currently granting. If there are other factors causing you to continue to use a historical volatility period which is shorter than the expected term of your options, please expand your disclosures accordingly to discuss these factors.

Form 10-Q for the Period Ended June 30, 2013

Notes to the Financial Statements

Note 2. Basis of Presentation and Other Information

Income Taxes, page 9

3. We note your response to comment 8 in our letter dated August 27, 2013. The uncertainty of the unrecognized tax benefits related to the timing of the deduction of certain acquired assets was resolved in the period ended June 30, 2013 as the Internal Revenue Service completed the audit of tax years 2010 and 2011. You expect to pay approximately \$8.0 million. Please expand your disclosures to clarify the financial statement impact of this resolution during the six months ended June 30, 2013.

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If you have any questions regarding these comments, please direct them to Nudrat Salik, Staff Accountant, at (202) 551-3692 or, in her absence, Jeanne Baker, Assistant Chief Accountant, at (202) 551-3691.

Sincerely,

/s/ Terence O'Brien

Terence O'Brien
Accounting Branch Chief